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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

☒ Responsive to communication(s) filed on *Mar 31, 1997* .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire __*three (3)*__ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-45, 49-54, and 56-62* is/are pending in the application.

   Of the above, claim(s) *43-45, 49-51, 53, 54, and 56* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-9, 12-16, 19-31, 34-38, 41, 42, 52, and 57-62* is/are rejected.

☒ Claim(s) *10, 11, 17, 18, 32, 33, 39, and 40* is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

   ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

      ☐ received.

      ☐ received in Application No. (Series Code/Serial Number) _____ .

      ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   *Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). __5__

☒ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- *SEE OFFICE ACTION ON THE FOLLOWING PAGES* ---

DETAILED ACTION

Election/Restriction

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

I.   Claims 1-42, 52, and 59-62 are drawn to a speech recognition data processing

apparatus with linking of audio and character data and updating of said linking,

classified in class 395, subclass 2.44.

II.   Claims 43-45 and 53-54 are drawn to a speech recognizer audio and recognition

data display and storage apparatus with selective disabling of display storage or

recognition, classified in class 395, subclass 2.1.

III.   Claims 49 and 56 are drawn to speech recognition apparatus with correction of

incorrectly recognized speech patterns and recognition model updating, classified

in class 395, subclass 2.53.

IV.   Claims 50-51 are drawn to speech recognition data processing apparatus with

likelihood indicator and correction capability, classified in class 395, subclass 2.79.

2.   The inventions are distinct, each from the other because:

Inventions I and II-IV are related as subcombinations disclosed as usable together in a

single combination. The subcombinations are distinct from each other if they are shown to be

separately usable. In the instant case, invention I has separate utility such as a dictation data

editor, without recognition input disabling or recognizer model updating or likelihood indication.

See MPEP § 806.05(d).

Inventions II and III, IV are related as subcombinations disclosed as usable together in a

single combination. The subcombinations are distinct from each other if they are shown to be

separately usable. In the instant case, invention II has separate utility such as author's dictation

data storage unit with audio message instructional capability, with no recognizer model updating

or likelihood indication. See MPEP § 806.05(d).

Inventions III and IV are related as subcombinations disclosed as usable together in a

single combination. The subcombinations are distinct from each other if they are shown to be

separately usable. In the instant case, invention III has separate utility such as test and training

unit for a speech recognizer with no likelihood indication. See MPEP § 806.05(d).

3.   During a telephone conversation of Supervisory Patent Examiner Mr. MacDonald with

applicants' representative Mr. Lundberg on July 7, 1997 a provisional election was made without

traverse to prosecute the invention I, claims 1-42, 52, and 57-62. Affirmation of this election

must be made by applicant in responding to this Office action. Claims 43-45, 49-51, 53-54,

and 56 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being

drawn to a non-elected invention. Claims 46-48 and 55 were cancelled by Preliminary

Amendment.

4.   Applicant is reminded that upon the cancellation of claims to a non-elected invention, the

inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently

named inventors is no longer an inventor of at least one claim remaining in the application. Any

amendment of inventorship must be accompanied by a diligently-filed petition under 37

CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.   Claims 1-5, 7-9, 12-16, 19-22, 42, and 57-58 (for an apparatus); 23-27, 29-31, 34-38, 41,

and 59-62 (for a method); and 52 (for a computer usable medium to implement an apparatus) are

rejected under 35 U.S.C. 103(a) as being unpatentable over Digital Dictate (see Seybold Report

"NCC's Digital Dictate enhances IBM VoiceType Dictation", published June 10, 1995).

As per claims 1-2 and 23-24, Digital Dictate has

- input means for receiving and storing audio data and corresponding speech recognition

    data, including a string of recognized characters (words) and audio identifiers identifying

(and linking) audio components corresponding to a character component (words) of the

recognized characters ("audit trail linking the recorded dictation audio with the typed

text")

- storage means for storing said audio data ("long-term storage of the dictation audio" with

  retention of said "audit trail" links)

- (editing) processing means for receiving and processing input recognized characters to at

  least one of replace, insert, move and to position recognized characters to form a

  processed character string (is "voice aware", so responds to voice input for commands

  and dictation)

- a means linking between identified characters (words) and corresponding audio ("audit

  trail")

- display means for displaying the received characters (monitor screen associated with word

  processor)

- user operable means for selecting and doing (claims 2 and 24) audio playback for

  displayed characters (both a "single-word-at a time random-access audiio replay and

  correct function" as well as "can automatically play back the dictation audio sequentially,

  word-by-word").

It should be noted that, even though reference is to recognized "characters" rather than

"words" throughout, the examiner assumes that even though usually only a few *characters* may

need to be *corrected* in the text, a typical user will want to *hear* audio for a whole *word* (at least),

rather than just an isolated *phoneme* corresponding to a few characters, so as to be able to

determine whether and how the speech recognizer erred. The Specification also discloses only

word recognition and tagging (*e.g.*, p. 16-17); "dictated numbers" and any other "unicode

characters" (p. 5) are also words, of course. Thus, he interpreted the claims to mean that

correcting characters by hearing a word is what *really* was intended to be recited.

The Seybold Report on Digital Dictate does not explicitly teach updating the audio

portion and identified word link data, but it would have been obvious for an artisan at the time of

invention to maintain said link after doing any needed text editing, because an artisan would have

known that "Correcting is the most time consuming part of typing and dictating" (citing

applicant's furnished NCC's Product Comparison Table on the "Deferred correction & audio

playback" feature), and losing the link after editing (moving, inserting, etc.) would make the

correction process unnecessarily cumbersome.

As per claims 3 and 25, Digital Dictate has a speech recognition update means to "'train'

the system when corrections are done".

As per claims 4 and 26, Digital Dictate has a means to enter a new character during

correction (A-Z spell mode & automatic word add), and VoiceType that it enhances already has a

"Correct Error pop-up menu" (VoiceType Version 1.1 User's Guide, p. 67) showing a choice list

comprising alternative characters (words).

As per claim 5 and 27, Digital Dictate's "audit trail" links recognized characters with audio components in the audio data for easy playback.

As per claims 7, 9, 29, and 31, Digital Dictate's automated proofreading has "confidence level" proofing for "words that have been recognized below a specified confidence index level" which highlights words that fall below a specific confidence level threshold (claim 9 and 31). Since in Digital Dictate "each word is displayed in the proper font only after it is firmly recognized", it indicates recognition status by displaying characters which are still being recognized differently (claims 7 and 29).

Digital Dictate has a user-operable selection means for selecting alternatives to incorrectly recognized words and replacing them, as discussed above *re* claims 4 and 26.

As per claims 8 and 30, the Digital Dictate's speech recognition model "uses context information from following as well as preceding words", which context information is a part of the model that is dynamically updated by corrections.

As per claims 12 and 34, Digital Dictate allows user to play back the audio data of the most recent or any other earlier audio passage corresponding to the recognized/corrected dictated characters (see discussion of claims 1-2 and 23-24, above).

As per claims 13 and 59, Digital Dictate has the recited data processing apparatus features of claim 1 (see discussion above) and has an editor work station (associated word processor application) for displaying the characters being processed, correction means for selecting and correcting any displayed characters which have been incorrectly recognized, with associated audio portion playback, and storing the corrected text in a file, as well the capability of passing the correction data to the speech recognition engine for updating the speech models.

As for the specific "audio identifier/character correction file" method recited for doing said speech model adaptation, the "deferred correction mode...that does not lose its ability to 'train' the system when corrections are done in a later session" accomplishes the same purpose, since it "does not corrupt the user profiles as the uncorrected file is saved for later processing", and is equivalent to having a correction file that is used later on to update the speech model. Digital Dictate's "Correction Assistant" allows the speech recognition model profiles for different authors to be updated separately.

As per claim 14, it is covered by the discussion of claim 4.

As per claims 15 and 21, they are covered by the discussion of claim 8.

As per claim 16, it is covered by the discussion of claim 9.

As per claim 19, it is already covered by the discussion of parent claim 13.

As per claim 20, it is covered by the discussion of claim 4.

As per claim 22, it is covered by the discussion of claim 9.

As per claim 35, an artisan at the time of invention would have known to have separate author and editor workstations, so that the dictated, recognized and linked audio data of an author can be edited at a different location (perhaps even while the author is still dictating), thus allowing the author to concentrate on the content of his dictation while the editor concentrates on correcting the errors in the recognized text and otherwise editing it, using the method recited in claim 25, which is discussed in connection therewith.

As per claim 36, it is covered by the discussion of claim 26.

As per claim 37, it is covered by the discussion of claim 8.

As per claim 38, it is covered by the discussion of claim 31.

As per claim 41, it is covered by the discussion of claim 34.

As per claim 42, an artisan at the time of invention would have known and implemented a plurality of data processing apparatus connected to a network to at least one editor work station, so that each editor can access and edit stored characters and audio data on said plurality of data processing apparatus, so that one (or more) editors can edit the work of several authors, who do not have to be physically located nearby; also the editor(s) do not have to wait until all the authors are finished with their dictation before they can start editing on a workstation they all use.

As per claim 52, it recites a computer readable medium to implement the above data processing apparatus. "Digital Dictate is NCC's...software add-on for VoiceType Dictation" and thus is necessarily recorded on a computer-readable medium.

As per claim 57, Digital Dictate allows user to store the characters and the audio data and the linkage therebetween.

As per claim 58, Digital Dictate allows user to edit the text stored in the data processing apparatus, has audio data linked to the characters which can be played back as the characters are being edited, and has a dynamic speech model updating capability, using corrected recognitions.

As per claim 60, it is covered by the discussion of claim 1.

As per claims 61 and 62, they are covered by the discussion of claim 13.

Claim Rejections - 35 USC § 103

7.   Claims 6 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Digital

Dictate as applied to claims 5 and 27, respectively, above, and further in view of (Steven P.

Russell *et al.*, WO/07562, also U.S. Patent 5,526,407 issued June 11, 1996).

Digital Dictate does not use separately dictated passages of characters stored in a separate

file. However, Russell et al. teach a method and apparatus for managing information by

recording, categorizing, organizing, managing and selectively retrieving such separated audio

(speech) information using a linked structure representing the categorized portions of the speech

stream that enables said selective retrieval of the categorized speech portions. It would have been

obvious for an artisan at the time of invention to allow such recognition and editing processing of

separately dictated passages so as to avoid the need for an author to do the entire document in

one sitting, and to allow the author to work, selectively back and forth, on portions of several

documents while dictating, so as not to lose a thought that relates to a different document than

one currently being dictated.

Claim Objections

8.   Claims 10-11, 17-18, 32-33, and 39-40 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

As per claims 10, 17, 32, and 39, the prior art of record does not teach selectively

disabling the importation of recognized characters or of dictated speech recognition for a period

of time for the purpose of storing an audio message, associated with the file of recognized

characters from author's dictation, for input to the data processor for later playback to an editor.

As per claims 11, 18, 33, and 40, they further limit their parent claims, and thus would be

allowable also.

Conclusion

9.   **Any response to this action should be mailed to:**

10.   Commissioner of Patents and Trademarks

Washington, D.C. 20231

or FAXed to:

(703) 308-9051, (for formal communications intended for entry)

or:

(703) 305-9508 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington. VA., Sixth Floor (Receptionist).

11.   Any inquiry concerning this communication should be directed to the examiner, Talivaldis

Ivars Smits, whose telephone number is (703) 306-3011. The examiner can normally be reached

Mondays-Fridays from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Allen R. MacDonald, can be reached on (703) 305-9708. The facsimile phone number for this

Group Art Unit is (703) 305-9508.

Any inquiry of a general nature or relating to the status of this application should be

directed to the Group receptionist, whose (new) telephone number is (703) 305-3900.

Dr. Talivaldis Ivars Smits
Assistant Examiner
Art Unit 2308
July 29, 1997

ALLEN R. MACDONALD
SUPERVISORY PATENT EXAMINER
ART UNIT 2308